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Essays on Canadian Economic Problems

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**The Royal Bank
of Canada**

ECONOMIC
FELLOWSHIP
COMPETITION
1928 - 29

Essays on Canadian Economic Problems

Volume II
Competition 1928-29

**The Royal Bank
of Canada**

Head Office, Montreal

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INTRODUCTION



WITH a view to encouraging the systematic study of the economic problems confronting the country, The Royal Bank of Canada offered a \$1,000 Graduate Fellowship to the student in attendance at any Canadian university who should submit the best paper on one of a number of specified subjects.

The competition received the wholehearted support of the Department of Economics at each Canadian university, and in 1928 there were fifty-eight students from all parts of the country who submitted essays. In 1929, there were sixty-two essays received,—thirty-three from McGill University; four from Dalhousie University; four from McMaster University; three from the University of Toronto; three from the University of Saskatchewan; three from the School of Higher Commercial Studies; three from Macdonald College; two from the University of British Columbia; two from the University of Western Ontario, and one each from Acadia University, Loyola College, Bishop's College, Laval University, and Brandon College.

In 1928, the Right Honourable W. L. Mackenzie King, Dr. Oscar D. Skelton and Dr. Adam Shortt, the judges, awarded the prize to Mr. Dermot A. Davies, a student at the University of British Columbia. Mr. Davies is now attending McGill University under the benefit of this Fellowship.

The subjects of the papers in 1928-1929 were as follows:—

The Economic Aspects of the St. Lawrence Waterway Plan.

The Coal Problem in Canada.

A discussion of the relationship between the St. Lawrence Valley and the coal supplies of the East and West.

Sources of Federal Revenue and their relative merits.

The study of a particular foreign trade area for the development of Canadian commerce.

Dr. Adam Shortt and Dr. Oscar D. Skelton, the judges, awarded the Fellowship to Miss Kathleen E. Best, a student at McMaster University, for her paper on "The Economic Aspects of the St. Lawrence Waterway Plan". The paper which received second place was one written on "The Coal Problem of Canada" by Mr. S. A. Saunders, a graduate of Dalhousie University who is now studying at the University of Toronto.

While the Royal Bank of Canada can take no responsibility for the views expressed in any one of these papers, it is our hope that the present essays, and those that will be published in future years, will be a contribution to the economic literature of Canada.

The Economic Aspects of the St. Lawrence Waterway Plan

By KATHLEEN E. BEST
McMaster University.

THE St. Lawrence Waterway Plan is now accepted as economically desirable, scientifically feasible and politically expedient. It is no longer a problem of possibility, but one of adjustment.

I.

THE PROJECT

There are five obstacles in the way of an open waterway from Fort William to the sea:

1. The falls at Sault Ste. Marie.
2. The flats in the St. Clair and Detroit Rivers.
3. The Niagara Falls.
4. The group of rapids in the St. Lawrence which are currently referred to as:
 - (a) The International Section, from Prescott to Cornwall, containing the Galop Rapids, Rapide Plat and Long Sault.
 - (b) The National Section: the Soulanges group of rapids and the Lachine above Montreal.
5. The lower St. Lawrence between Montreal and Quebec.

The present St. Lawrence Waterway plan aims to complete a 27 foot navigation channel to overcome these five obstacles in the river system. Because this river forms an international boundary in the greater part of its course, the channel is to be a joint undertaking. The National Advisory Board of Canada, after investigating the report of the International Joint Commission, has recommended the following distribution of responsibility:

That Canada should provide for the works wholly Canadian, such as the Welland Ship Canal, and the area of the St. Lawrence below the international boundary, and that the United States should undertake the completion of a 27 foot channel to the head of the lakes in addition to meeting the entire cost of the International Section (4 a.).(1). Canada has already spent \$115,600,000 on the Welland

(1) Letter from Hon. Vincent Massey to Hon. F. B. Kellogg. Government Correspondence, Jan. 1928.

Canal. The lower St. Lawrence presents no serious difficulty. The urgent problem is now the development of the national section of the upper St. Lawrence. The cost for this section only is estimated at 87 million dollars for navigation and 296 million dollars for power if completely utilized, or a total of 383 million dollars.

II.

FINANCE

While the advantages of the new ship canal to Canadian Trade have been demonstrated in various reports and the value of the potential waterpower is appreciated, it is significant to note the statement of the National Advisory Committee: "That if it were seriously suggested that Canada should undertake to finance as a public undertaking the immense outlay . . . we would unhesitatingly recommend that no action be taken . . ." (1). The Dominion Government cannot afford to finance this work because of its present burden of war debt, its railway obligations, and the necessity of spending large sums on public works. But the Report offers an alternative. "We believe . . . the development of this national section would be undertaken by private agencies able and willing to finance the entire work, including the necessary canalization, in return for the right to develop the power." (2).

The first question that arises is, why would it not be worth while for the Canadian Government to finance the whole project itself? If there are real benefits to be obtained from development of power in the national section, it seems a short-sighted policy to hand over a power monopoly to a private company in return for navigation facilities over its own waters.

There is some truth in this argument. The whole development, it is proposed, will be financed by a private company who will then sell electric power to the people of Quebec. But the two costs, that of navigation and that of power, are essentially different. The benefit of the navigation works will accrue to millions in the west both in the United States and Canada, while only a limited area can possibly be served by the electric power. Yet, according to principles of finance a heavy initial outlay is charged off annually out of the earnings of the company. It is anticipated that the full cost of the navigation works which the power company must provide to

(1) Report of Canadian National Advisory Committee Jan. 1928.

(2) Report of C.N.A.B. Jan. 1928.

the Government, will be borne, through high-priced electricity, by the area served with power.(1). The expected industrial expansion may be choked in its infancy by high power rates. If the country as a whole will benefit by improved navigation channels, the cost of these improvements should be shared by all, and not alone, as may be reasonably feared, by the Quebec consumers of power.

Again, it is more natural to expect a private company to reimburse itself for initial expenditures by high rates, when it is recalled that such a company would have a virtual monopoly of the power supply. All the economic laws that operate under monopoly conditions may be applied to such a case. Competition, that powerful set of brakes on profit, can no longer be relied upon, for competition in the supply of electric power is not only wasteful, but impracticable. A private company in possession of the St. Lawrence would hold a strategic position. It would be an industrial monopoly subject to the law of increasing returns, which returns would arise both from increasing efficiency of plant and constantly growing market.

The answer to these objections lies in the simple fact that the Government is not in a sufficiently strong financial position to undertake the development as a public enterprise. The "spur of profit" is needed to make it attractive as an investment for private capital and the risks of the engineering projects, the pioneer work of adjusting a great flood of electric energy to the demands of a small population, call for a specialized management that public officials are quite unable to supply. Private management is a very necessary step in the great undertaking. But the time will undoubtedly come, as it has in the case of so many railroad systems, when public management will be more economical. Speaking of water-power, Taussig says, "The Public should never give away in perpetuity the ownership of this great resource," and "It is the first and simplest canon of public policy that there should be no unlimited franchises."(2). A reserved privilege of purchase should be inserted in the contract, based on the cost of the plant, not, as would certainly occur if the Government later sought to purchase through the financial market, on the capitalized value of its earnings.

In the United States it has been shown that Government regulations which enforce publicity of accounts, with statements of costs

(1) Mr. Beaudry Lemans & Mr. Adelard Turgeon. Appendix to Report of C.N.A.C.

(2) F. W. Taussig "Principles of Economics", Page 403.

and profits, have been sufficient to check extreme abuse of monopoly privileges. But when the period of public ownership is entered upon, it is impossible to predict what force will be adequate to check the political demoralization and industrial stagnation so widely prophesied. Taussig speaks in general of a more enlightened electorate and sharpened conscience as to honesty and efficiency in public administration. "It is not too much to say that the future of democracy will depend on its success in dealing with the problems of public control and regulation." (1).

The St. Lawrence Waterway Plan, in its financial aspect, presents to Canada a clear field for the application of those principles and practices which have been tested by other governments in their experience with public utilities.

For the United States, the problem of finance is not one of supreme concern. It is believed that the expenses of developing the International Section will be borne by the Aluminum Company now in operation in this area, but the vital question of safeguarding national rights and the regulation of an American monopoly, are beyond the scope of this essay.

III.

TRANSPORTATION

The chief purpose of the St. Lawrence Waterway Plan is to provide an outlet to the sea, and thus to world markets, for the products of the continent. There have been altogether too many prophecies of the rose-coloured variety describing in glowing terms the effect on transportation and commerce of the deepened waterway. The modern business world is too complex to permit a definite forecast of the effect of a new trade route. Too many incalculable factors are involved. Nevertheless, any invention or improvement that cheapens the final cost of production is an economic good, and the benefit of any such reduction in cost will be distributed according to the demand for the commodity.

In this case the commodity concerned is wheat. The central idea is that the deepened waterway, by eliminating trans-shipment along the route, will lower the cost of sending wheat to the world market (which may be thought of as Liverpool). But the price of wheat in the world market is fixed not alone by the cost of production and

(1) F. W. Taussig, Page 411.

transportation of Canadian grain, but by demand and supply the world over. Consequently only a small part of the advantage of a lowered cost will be gained by Europe in a lower price, for this price is fixed by a larger law, and the wheat grower of the West will retain the larger part in an increased margin of profit.

Based on this theory, innumerable pamphlets and newspaper articles have been published, estimating in the most minute detail the savings per bushel and per ton of wheat and holding forth a dazzling prospect of national prosperity.

There are no statistics to show that the great canal schemes of the past have fulfilled the expectations of their promoters and many have not justified their existence.(1). As for the St. Lawrence route, many experienced shipping authorities state that the regular passenger and cargo liners would not use the waterway if it were built. "The dangers of manoeuvring liners in and out of locks, the high cost of operating such vessels in restricted waters and the scarcity of high class freight to and from Canadian ports on the Great Lakes, would preclude the successful operation of this type of vessel through the waterway."(2). The only ocean-going vessels that would use the waterway are tramp steamers whose movements are influenced by many independent considerations. Tramps offer their cargo space wherever they can get a certain and profitable market for it and rates for its use are subject to supply and demand. They would not incur the expense of proceeding from Montreal to the head of the lakes unless they could charge a higher proportionate rate for the inland haul,—unless there were a clear profit to be made. There is no guarantee that tramp steamers will be attracted to the St. Lawrence Waterway. If no other reason exists, the fact that, unlike the other great trade routes, the St. Lawrence is closed by the severity of the Canadian winter for four months of every year, may deter ocean shipping from its use.

One must also consider that the pressure on Canadian transportation facilities is not yet excessive, and railway development is still in advance of population and production.(3).

That the problem of freight rates is not more acute is due to the restrictive influence of alternative trade routes, such as the Vancouver-Panama, the anticipated Hudson Bay Route which shortens

(1) H. G. Moulton "Railroads vs Waterways." Page 42ff.

(2) Evidence of Mr. A. L. W. MacCallum. Proceedings of Special Committee of Senate, No. 5, Page 124.

(3) Report of International Joint Commission.

the haul of grain to Liverpool by 1000 miles, and the present St. Lawrence Route on which both Governments have already spent over 129 million dollars.

It is unreasonable to expect in Canada any sudden or miraculous wave of prosperity to follow the completion of the deep waterway. In the United States, where pressure of freight rates is more acute and the number of people concerned is much greater, the St. Lawrence Waterway may bring definite relief and the resulting prosperity may be more marked.

A conservative estimate of the anticipated savings in exports, of which wheat is the most important single item, is to be found in the statistics of Mr. D. W. McLachlan who presented them before the Senate Committee, June 1928.(1). The following table gives a summary of his investigations and shows the cost of transporting grain from Fort William to Liverpool by the various possible routes.

Route	Cost per ton (Average of 7 months)
A. Existing Routes.	
1. All water, transfer at Port Colborne and Montreal.....	\$5.92
2. Water and rail, transfer at Port McNicol and Montreal.....	6.46
3. Water and rail, transfer at Buffalo and New York.	6.06
B. With Welland Canal.	
1. All water, transfer at Gananoque and Montreal...	5.63
2. All water, transfer at Prescott and Montreal.....	5.88
C. With complete St. Lawrence Deep Waterway.	
1. All water, no transfer.....	4.00
2. All water, transfer at Montreal.....	4.64

This shows a saving by the completed deep waterway of a possible \$1.92 per ton over cheapest route of Class A and of \$1.63 over cheapest route of Class B. But this is only when the through trip from Fort William to Liverpool is made, and a fair average saving is about \$1.50 per ton of wheat or about 4 cents per bushel. In 1926 over 55 million bushels of wheat were exported from Montreal alone.(2). Mr. McLachlan assumes that about 4 million tons of Canadian grain will be available for export per year and estimates a

(1) Proceedings of the special committee of the senate, No. 10, page 308.

(2) Grain Trade of Canada. Pages 11 and 12.

total saving of 6 million dollars. The saving on bagged flour is calculated in a similar way at about \$3.60 per ton and on package freight at \$2.82 per ton. The following total annual saving is quoted for exports.

Grain.....	\$6,000,000
Flour.....	1,600,000
Lumber.....	2,400,000
	\$10,000,000

The chief article of import likely to be affected by the new route is coal. In 1927, 798,289 tons of British Anthracite were imported into Canada, of which, 80% was received at the port of Montreal. But the rail haul from Montreal to Toronto prohibits the extensive use of this fuel in central and western Ontario and the opening of the waterway, making possible a saving of approximately \$2.50 a ton in transportation charges, will undoubtedly stimulate this demand for British coal. The St. Lawrence Deep Waterway would also extend westward the frontiers of the market for Nova Scotia coal. How far westward, and how great the saving, it is difficult to predict.

These savings are not mythical but form the statistical basis for the fact that the Canadian Government has committed itself to the St. Lawrence Development. In what proportions the saving will be shared by Canada and the United States will depend upon the origin of the trade volume.

IV.

ECONOMIC ADJUSTMENTS

Before the effect on commerce of this great transportation reform may be fully appreciated, there are various other aspects to be considered. The St. Lawrence Waterway Plan calls for adjustment in almost every sphere of economic life.

A. Competition with Established Trade Routes.

First one must consider the new competition that the St. Lawrence route will offer to the other highways. In 1926 Canadian

wheat found its way to the world market by the following routes:(1).

	M. bu.
1. Via Vancouver (Rail to Vancouver, then by water to Asia or through the Panama Canal).....	53.0
2. Via New York (Rail to Fort William, Lake freighter to Fairport, Erie and Buffalo, and rail to the New York Coast).....	142.2
3. Via Montreal (Rail to Fort William, Lake freighter to Port McNicol and Midland and rail to Montreal, or Canal boat through the Welland and existing St. Lawrence channels).....	58.2

The costs of these routes have also been estimated by the Senate Committee,(2). with Edmonton as the approximate point of origin.

Route	Approximate cost per ton.
1. Via Vancouver.....	\$11.39
2. Via New York.....	13.26
3. Via Montreal.....	12.55
Via Montreal (Welland Canal).....	12.34
Via Montreal (completed Waterway and transfer at Montreal).....	11.27
Via Montreal (completed Waterway and tramp steamer Montreal).....	10.63

When the St. Lawrence Waterway is complete, and providing the tramps adopt this route, there will be a saving of 76 cents a ton over the Pacific route, formerly the cheapest. In other words, the St. Lawrence will compete with the Pacific for the grain of the middle west. The line which represents a sort of "water-shed" of grain will move slightly westward, and the volume of St. Lawrence grain will rise in proportion.

The St. Lawrence will compete with the railroads of the American Atlantic States and will undoubtedly force down their freight rates in the struggle for grain. By no means all the New York trade in grain will be turned into the St. Lawrence. There will be an adjustment of freight rates so that the railroads will be able to supplement

(1) Grain Trade of Canada, 1926. Page 14.

(2) Report of Senate Committee. Page 312.

the transportation facilities of the waterway. Grain will continue to seek the Atlantic Coast because it is there that the tramp steamers call in greatest numbers and offer cheap transportation to Europe. Montreal cannot, as yet, rival New York as an entrepôt.

B. Railroads.

A second consideration is the change in the nature of traffic carried by the railroads which will be forced to confine themselves to commodities of high value and small bulk. But there are many commodities to which speed and security in transport are more essential than low rates. If a portion of package freight is diverted to the waterway, railroads will at first feel the loss keenly as "the transportation capacity of the existing railroads is greatly in excess of the volume of package freight offering at the present time." (1). It is believed that the industrial expansion in the east due to power development, and the increased purchasing power of the west, with its resulting stimulus to commerce, will shortly compensate them for any loss.

In the United States, diversion of grain traffic to the St. Lawrence will relieve the western railroads whose powers have been taxed to the limit. It is because the railroads of the United States have been unable to handle the seasonal wheat movement that the agitation for the St. Lawrence Route has been so keen in the American west.

C. Shipping.

There will also be an adjustment by shipping interests to the demands of the new route. The great lake freighters are highly specialized carriers similar to nothing else in the world. To the objection that the present ships are unsuited to the long haul on the lakes because of the width, or depth, or length of the boats, the answer is that just as the lake freighters were evolved to meet special conditions on the upper lakes,—so other shipping will speedily be adapted to new requirements. As long as the economy of water transport is genuine, ship-builders will adapt the instruments of transportation to the conditions. All the lake ports which may look forward to expanding trade, must also adjust their harbours and docks to the new shipping opportunities. One hesitates to predict what increase in trade may be waiting around the corner of the years, but it may be

(1) Senate Committee. Page 309.

noted that since Confederation the volume of our foreign trade (i.e. after allowing for price changes) has doubled on the average every 12 or 15 years.

V.

INDUSTRIAL EXPANSION.

Since the development of power is the means whereby the navigation program of the St. Lawrence is to be financed, the two projects are not easily separable. But there are several aspects of the power development yet to be considered.

The "national" section of the river, which lies entirely in Quebec, will provide about 3 million horse-power. The market in Canada is not great enough to utilize all this power if it were suddenly available. But by proceeding in careful stages in the "progressive program" outlined in the recommendations of the International Joint Commission, it is believed that the Quebec area will be able, in a short period, to absorb its full quota of power. In any case there is to be no export. (1).

The International section is also to be developed for power, but political and engineering difficulties will delay this phase. Approximately two million horse power may be eventually developed, half of which is Canadian and will be available for Ontario. In order that Ontario may not be kept waiting for its power while the Quebec market is expanding, an understanding has been reached between the provinces that a portion of the Quebec power will be sent into the eastern section of Ontario.

There is a rapidly increasing demand for electric power, not only in industries but also in homes. Statistics show a steady increase in homes where one or more electrical appliances, such as a washing machine, electric iron, stove or heater are in use. In 1923, Canada used 20 million kilowatt hours per day; in 1927, 40 million; and in Ontario and Quebec alone the demand rose from 17 million in 1923 to 34 million in 1927. (2). It is the opinion of scientific men who have become interested in the growth of demand for power, that there is a rapidly expanding market, and the St. Lawrence development is a very timely response to the demand. (3).

(1) Report of I.J.C., page 40.

(2) Special Committee, No. 3, page 101.

(3) Charts of U.S. Federal Power Commission.

Cheap power means increased production throughout the valley of the upper St. Lawrence. In the past, manufacturers have been attracted by cheap power whether of coal or electricity, and it may be expected that wherever power is an important item in costs the shores of Ontario and Quebec will loom large as a possible location. For new industries set up in this area the fairly dense population already there will serve as a market, and the new navigation routes will not only bring raw materials to their very doors but will provide cheap transportation to the world markets for surplus products. The economic ascendancy of England in the 19th century was due to a similar combination. England found cheap power in her coal mines and her nearness to the sea provided cheap and convenient transportation. These conditions will re-appear along the St. Lawrence valley when power is released and the waterway completed, and an era of great industrial expansion is anticipated.

One interesting aspect of industrial expansion is the demand for capital to finance new enterprises. A great part of this capital must be supplied by the Canadian Banks. Much of it will be imported from the United States. Only one million horse power will be available for the New England States, and this will probably be absorbed by the ordinary expansion of the market. This must mean that capital will flow into Canada to reap the profits of abundant power, not only from the United States but from Europe as well. Canada has already imported foreign capital extensively. If foreign money can earn higher profits here than at home, Canada is really sharing her natural wealth with the whole world, while at the same time the country is opened up and a higher rate of return is made possible for Canadian money.

The idea of "industrial expansion" brings with it a host of related problems,—population, wages, price levels, standard of living—just as the idea of transportation savings invokes a train of speculative thought as to the new purchasing power of the farmer, and the extended margin of cultivation in the west. It has not been the purpose of this discussion to "dip into the future far as human eye can see" in an endeavour to fathom the influence of the new trade route. But it requires no vision to foresee the time when Canadian Commerce will pass in triumph "from the River to the ends of the earth."

The Coal Problem in Canada

A discussion of the relationship between the St. Lawrence Valley and the coal supplies of the East and West

By S. A. SAUNDERS, B.A.

Dalhousie University, University of Toronto.

CANADA, with a total reserve of coal officially estimated at 1,229,236,000,000 tons, possesses 17 per cent of the world's resources of this fuel, and is surpassed in this respect by one country only, the United States. At the present rate of consumption, this supply will not be exhausted for some 36,000 years. Yet, in spite of these vast resources, the Dominion has imported, on the average for the ten years 1918-27 inclusive, 17,847,218 tons per annum, or 56.8 per cent of her average yearly consumption. When we seek an explanation for this anomaly, we find it in the manner in which nature has distributed her bounteous supplies. Our coal fields are located in the far West and the extreme East, being separated by more than 3,000 miles of rail. The intervening territory is, for the most part, devoid of important deposits of high quality coal; and that immense territory drained by the St. Lawrence, embracing most of the territory of Ontario and Quebec, has no reserves whatever, save a paltry amount of poor grade coal in Ontario, which, even if it were accessible, would not supply the Province with fuel for more than two years. Confining our attention to Central Ontario and Quebec, since imports entered through Port Arthur and Fort William are destined, in the main, for Manitoba, we find that the imports for 1927 amounted to 17,172,586 tons, while the imports for the whole Dominion amounted to but 18,687,354 tons. The population of Ontario and Quebec constitutes 60.8 per cent of that of the whole Dominion, and most of that of Ontario is concentrated in the central portion. What is more, this region of Central Ontario and Quebec is the industrial centre for all Canada. The fact that such an important section of the Dominion is dependent on outside sources for its supply of coal is sufficient cause for investigation; and the coal problem in Canada, in its simplest form, seems to be to secure for this section of the country an assured, adequate, and economic supply.

Of the 17,172,586 tons of coal imported into the acute fuel area, as the St. Lawrence Basin has been called, 94.9 per cent comes from the United States, which shows how dependent we are upon that country for fuel for this area. Of this, 3,065,919 tons are hard coal or anthracite, and destined for domestic purposes; and the

balance, 13,236,234 tons, is bituminous or soft coal, and is used chiefly for industrial purposes. The reserves of coal in the United States are as nearly inexhaustible as coal reserves can be, since they comprise 50 per cent of the world's supply. But this statement holds true in regard to coal in general; for the anthracite is found in much smaller quantities than bituminous, and the present supplies are estimated to last not more than 100 years; and those in the Wyoming Valley field, from which Canada derives most of her supplies, are given a life of but thirty years. As the exhaustion of the mines has proceeded, the quality has declined and prices have risen, and labour disputes in the industry have periodically interrupted the supply. In 1921, the American Department of Mines unofficially notified the Canadian Department of Mines that Canada soon must be prepared to find substitutes for American anthracite. The consciousness in the United States of the diminishing resources of hard coal has been manifested in several bills introduced into Congress to place an embargo on exports to Canada. Here, then, our problem takes more definite form, and divides itself into two parts: the first, to find substitutes for American anthracite; the second, to inquire as to whether or not Canada should remain dependent on the United States for such a large supply of her industrial fuel.

In examining the question of finding substitutes for American anthracite, first let us realize that Canada has no anthracite with which to replace the American fuel; further, that the Nova Scotia coal is unacceptable for domestic use on account of its smoky quality. But Alberta possesses large reserves of high grade bituminous that give excellent service in domestic furnaces, heaters, and cook-stoves. It is possible, too, for a considerable portion of household fuel to be replaced by coke. We shall examine the questions concerning these substitutes in reverse order.

The quantity of coke that may be economically produced depends chiefly upon the market for the by-products, gas, sulphate of ammonia, and various oils. According to an estimate of the Fuel Board, plants favourably located would be able to replace from 25 to 35 per cent of our domestic requirements. Working on the basis of 1927 figures, and considering that over 800,000 tons of coke are now being consumed, another 1,000,000 tons is the most that we can allow. This may be produced from either Nova Scotia or American bituminous coal; but, considering the proximity of the American mines to the Ontario market, and the possibility of water transportation from Nova Scotia to Montreal, it is most likely that

the Nova Scotia coal will be used in the lower St. Lawrence valley, while chiefly American coal will be used in Ontario.

In bringing coal from Alberta, the problem is to overcome the disadvantage of a 2,000 mile haul. According to the majority report of the Board of Railway Commissioners, on the cost of transportation of coal from Alberta in trainload lots, the actual cost of transportation was \$7.22 per ton, while the minority report of Mr. Oliver placed the figure at \$6.50. As a compromise, the government has set a rate operative during the spring and early summer for three years, for the purpose of ascertaining the possibility of placing Alberta coal on the Ontario market at competitive prices. At this rate, it is estimated that the coal will retail from \$13.00 to \$13.50 per ton. In times of shortage in past years, Alberta coal has been brought in to relieve the situation, but the times were abnormal, and it was difficult to ascertain just how well it could compete with American anthracite at the prevailing prices under normal conditions. Even yet there is nothing certain about the exact price or competitive level, but all those in a position to know seem to feel confident that Alberta coal can find a place on the Ontario market. If a freight rate of \$6.75 per ton proves sufficient to cover operating expenses, it falls short by \$5.45 of the total cost including profits, and it would seem likely, therefore, for the present at least, that the rates would be confined to coal moved in the off season. This means that the coal must be purchased in the spring or summer and stored for winter use, or stored by the dealers in closed bins, as most varieties deteriorate quite rapidly when stored in the open.

Before considering how much Alberta coal will be required, it will be necessary for us to examine the possibility of supplies from another source, namely, Wales. The Welsh anthracite coal is of even finer quality than the Pennsylvania anthracite, and may be imported rather reasonably. Owing to shortage of return cargoes for ships carrying goods to England, coal is brought as ballast at rates centering around \$1.75 from the British port to Montreal. The annual production of Welsh anthracite is from four to five million tons, and may be increased. It is difficult to say how much of this coal would be available for Canada. A few years ago the limit was set at 600,000 tons, but this was exceeded in 1927 when we imported 720,203 tons. If we set the limit at 1,000,000 tons, we should be within safe bounds. In 1927, the total imports of anthracite into the St. Lawrence Basin, exclusive of those entering ports on Lake Superior, amounted to 3,796,085 tons. If we take this as a basis for

our estimate, and consider 1,000,000 replaced by coke, and 1,000,000 by Welsh anthracite, we have a balance of 1,796,085 to be brought from Alberta. This is a rather large amount for the people of Central Canada to be expected to purchase during the summer months for winter use. However, it is possible that, in a few years, the people might be educated to make these provisions, which would result in steadier employment in the Alberta mines, and a lessening of the burden which otherwise would be imposed upon the railways during that season when the western grain crop is being moved to eastern ports.

Considering the very large amount of coal that would be required from Alberta, it might be well to mention a few other possible substitutes. Ontario and Quebec are fairly well provided with peat beds; and peat during the fall and spring, might possibly be used as a domestic fuel. The Government has been carrying on experiments, and has established a plant for the production of peat at Alfred, Ontario. It is estimated that at \$10.00 per ton, peat may be produced to compete with anthracite at \$16.50. But it must be borne in mind that, at the present time, this industry is merely in the experimental stage. Through an investigation on the part of the Dominion Fuel Board, evidence was collected to the effect that low-volatile, bituminous coals from West Virginia, Pennsylvania, and Kentucky may be satisfactorily used in our present domestic equipment. The proposal to use oil and electricity as substitutes seems to have little possibility of realization. The world's supply of oil is limited, and this fuel does not promise to be available for domestic heating many years longer; and, in the opinion of the Fuel Board, the use of electricity for domestic heating is not as yet practicable. Even if it were, it might not be advisable; for, at the present rate of development, the available reserves of hydro-electric power will be completely harnessed within the next fifty years, and these will be required for industrial purposes. We have endeavoured to show that, in finding substitutes for American anthracite, we must look to Alberta for a very large quantity; but we have stated the requirements on the basis of 1927 figures, and these are bound to increase with the increase of population. The rural districts, too, are using more coal as supplies of wood fuel are diminished, and it will take time and much education to have the wood-fuel lots replaced and maintained. However, there is no reason to despair or feel alarmed, as the supplies of Alberta coal are very great, that Province possessing 87 per cent of Canada's reserves.

When we come to consider the problem of industrial coal, we are not faced with the urgent necessity of finding substitutes for the supplies coming from the United States as in the case of domestic fuel; but there are other considerations which make the examination of this problem worth while. First, there is the desirability of a variety of sources for any commodity derived from a foreign country; second, there is the possibility of putting the home industry on a sounder and more economic basis; third, there is the possibility of more satisfactory handling of industrial disputes which might interrupt the supply when the industry is carried on within our own borders; fourth, there is the danger of a foreign state using its power unfairly in bargaining. No one claims, however, that, as far as shortage of supply is concerned, due to stoppage in American coal fields, Canada has been used at all unfairly, or that the United States has endeavoured to take advantage of us, owing to our dependence upon her for so large a portion of our coal. Against these considerations must be set the additional cost, if any, of producing the commodity at home, and the possibility of the early exhaustion of some of our coal fields. It is essentially a problem of weighing advantages and disadvantages. Since we are obliged to find substitutes for American anthracite, and are proposing to substitute American bituminous coal, we are justified in grouping both varieties, and in discussing the problem as a whole.

Outside of Nova Scotia and Alberta, the only other source of supply is Great Britain. From Great Britain, as we found before, we may hope to receive upwards of 1,000,000 tons of anthracite yearly, and it is possible that we may be able to secure an equal amount of bituminous from the same source. The supply of coal in Nova Scotia is relatively limited, and one authority claims that the most that can be produced conveniently or advisably is 10,000,000 tons per year. We shall assume, then, 12,000,000 tons of coal from Nova Scotia and Great Britain; therefore the balance must come from Alberta. In 1927, ignoring the production from New Brunswick, which we may assume to remain constant, the total consumption of coal in the five eastern provinces amounted to 23,923,901 tons. It will be instructive for us to use these figures to see what the cost would have been to us if we had depended upon Canadian sources assisted by what might have been brought from Great Britain. In the first place, we must add another 428,571 tons to this figure to take care of the 1,000,000 tons of coke produced from coal. Of this total of 24,393,472 tons, 13,796,085 are accounted for by

Nova Scotia, Great Britain, and the domestic fuel brought from Alberta. The balance, 10,596,384 tons, is the industrial fuel which must be brought from Alberta. The American coal which is used for industrial purposes sells for \$5.00 to \$7.00 per ton in Central Canada, and it appears that the greater portion is purchased around the \$5.00 level. Granting a freight rate of \$6.75, the industrial coal from Alberta could not be laid down in Central Canada for less than \$11.00 per ton. Let us suppose that the average cost of American coal is \$6.00, then \$5.00 must be paid by the people of Central Canada for every ton of industrial coal brought in over and above the figure formerly paid for their fuel. This would amount to \$52,086,035.

If this price were maintained by a tariff, the Nova Scotia coal dealers could scarcely resist the temptation to charge the monopoly price which would be made possible. Further, there would be a loss to the government of over \$7,000,000 in revenue. A tariff would also involve the British Columbia mines in difficulties, as the United States would very likely retaliate, and the British Columbia markets are chiefly in that country; and, as industries using this more expensive fuel would be placed under an increased expense, there would arise the necessity of a complete tariff revision. There will be added to these costs and disadvantages the increased east-bound freights during those seasons when our railways are already taxed to capacity. These disadvantages might be mitigated somewhat by the improved conditions in the Nova Scotia and Alberta mines. But, it is evident that, by moving domestic fuel to Central Canada in the off season, the seasonal nature of production in the Alberta mines will be largely overcome; and there seem to be other and more profitable means of stabilizing conditions in the Nova Scotia fields. Considering, too, the friendly relations which exist between Canada and the United States, there seems little justification for any fear that may be entertained of that country treating us at all unfairly.

The known supplies of Nova Scotia coal are such that, if sixty per cent be recoverable, (and this seems to be the maximum allowed) these reserves will be completely exhausted in 128 years at the rate of 10,000,000 tons per year. Of course, the estimated reserves of Nova Scotia are twice as great as those known; but, in an old field like this, it is evident that these reserves are more inaccessible and less rich. The cost of production, therefore, will be bound to rise considerably as we are forced to go deeper, or farther under the sea, or to tap new and less fertile veins. What is more,

Nova Scotia is the only place in Canada where coal is found side by side with iron ore which can be profitably worked; and it is very likely that, in the near future, that Province will require a greater amount of her own coal to support a large industrial centre. For the present, what is needed is a proper marketing system to acquaint the natural markets with the nature and quality of Nova Scotia coals. These coals are suitable for all industrial purposes and coking. The natural market is in Quebec, as coal may be transported in the navigation season from Sydney to Montreal for \$1.00 to \$1.25 per ton. The rail haul is much more expensive, and costs \$3.60. From Clearfield and Scranton, Pennsylvania, the rates are \$4.09 and \$4.42 respectively. Although the cost of production is higher in Nova Scotia than in Pennsylvania, the lower freight rates, and the possibility of bringing in the coal by water transportation, puts her in a position to compete quite favourably with American coals on the Quebec market. It may not be long, moreover, until the diminishing supplies of natural oil will force us to secure our supplies of this fuel from coal; in which event, Canada would be in a very favourable position, and it would not seem wise or profitable to exhaust our eastern supplies too rapidly.

We may conclude, in the light of the preceding discussion, that we shall be able to find substitutes for American anthracite at very little, if any, extra cost; but in order that we may be completely independent of the United States for industrial coal, the cost will be so great that it is questionable whether the people of Canada will be willing to bear the burden. Yet, if the time should arrive when we must depend entirely upon our own fuel, we may feel satisfied that we have ample supplies for many years to come.



The Coal Problem in Canada

By RAND MATHESON
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THE fuel problem of Canada arises from the fact that the Canadian coal resources exist in the East and West remote from the centre of Canadian industry and trade where the consumption is the greatest.

Canada has sufficient coal of its own to be independent for thousands of years, but the absence of any coal mines for a stretch of country from Alberta to New Brunswick has left the district bordering chiefly along the Great Lakes and the St. Lawrence river, dependent upon the coal areas of the United States. The supply from this source is not dependable however, because, as a result of labor troubles, the supply occasionally has been curtailed with resultant hardships to the provinces of Ontario and Quebec. To avoid these hardships and at the same time supply from its own resources the greater part of the fuel consumed, constitutes the fuel problem.

There are two aspects to the problem involving two periods of time, the first period from 1923-1928, the second from 1928 on. In the first period the major aspect was the fuel supply for domestic purposes. This side of the question was brought into prominence by the domestic fuel shortages in the provinces of Ontario and Quebec in the years 1921 and 1922. These two provinces were dependent almost entirely upon the diminishing supply from the anthracite fields of Pennsylvania. The life of the field at the present rate of production is estimated at approximately thirty-five years. In addition, strikes, increased prices and the threat of an embargo against the export of this coal, created a perilous condition in the central Canadian market.

Today however, as the result of the efforts of the Dominion Fuel Board, the dependency upon American anthracite has been reduced by about 30% (over 1,500,000 tons). This improvement has been brought about by substituting coke, British anthracite, American low volatile coals, Alberta coals, hydro-electric energy, fuel oil and gas.

The problem since 1928 is that of substituting the use of native coal for foreign, in order that the producing capacity of the Canadian mines will be approached with resultant benefits to the operators

and miners. The coal consumption of Canada is about 26,000,000 tons per annum. Of this Canada imports on an average of 13,000,000 tons at a cost of about 61,000,000 dollars. To attain this involves a problem in marketing.

The general features of the present coal situation in Canada are similar to those in other countries. During the war the abnormal demand for coal resulted in over-expansion. The existing capacities of the coal mines of Canada, United States and Great Britain reveal this condition. Canada is capable of producing with the present facilities 11 million, Great Britain 70 million and the United States 200 million tons of coal more than is consumed. The consequences are unemployment, low prices and losses to the producers. Since the war the demand for heat and power have increased but the demand for coal has not increased proportionately. What has happened is that other fuels and sources of energy have been substituted for coal. In Canada the hydro development alone has displaced seventeen million tons of coal. Moreover, the extent to which fuel oil and more efficient utilization of coal have displaced its demand is immense.

In addition to the general cause of over-expansion the other factors peculiar to the Canadian problem of coal marketing are:

1. The proximity of the American fields.
2. The lower costs of coal production in these fields.
3. The dumping of the American oversupply into Canadian markets.

To increase the markets for Canadian coal and to reduce the disadvantage of the proximity of American mines is chiefly a problem in transportation.

I.

TRANSPORTATION.

So far this problem has been the determination of a rate which will only remunerate the railroad for the direct expenses of moving the traffic and handling the return empties. All other expenses not directly applicable to the problem are to be eliminated.

With this kind of a rate in view the Board of Railway Commissioners decided upon three rates which were put into effect for a

period of three years by an Order in Council in March 1928. These rates are:

- \$6.75 per ton, blanket from Alberta mines to Ontario. To be in force for not less than three months a year.
- 3.00 per ton, blanket from Nova Scotia mines to points in Quebec.
- 2.10 per ton, blanket from New Brunswick mines to points in Quebec. The two Maritime rates to be in force during the closed port season.

In addition there is a reduction of $\frac{1}{5}$ of 1 cent on ex-river coal trans-shipped by railways to points in Quebec and Ontario, the total reduction not to exceed 75 cents per ton. Furthermore the order provided for the re-payment to the railways for any expenses incurred by them over the test amount.

In the determination of these rates the Board was influenced by motives important to both coal and railroad operators and relevant to the policies of the government, namely:

1. Increased utilization of the capital invested in coal mines.
2. Increased employment.
3. Greater fuel independence.

As a result of the Western test rate 32,000 tons of Alberta coal were shipped into Ontario. The quantity and quality of the coal were unsatisfactory. It is believed that the advertising given to Alberta coal was used by unscrupulous dealers to dump on the consumers inferior grades of coal under the name Alberta. Because of the bad effects of these frauds the Ontario Government now is taking steps to prevent their recurrence.

On the other hand the Eastern test rate has been proving very satisfactory. Since the date of the close of navigation approximately 6,000 tons per week are being shipped to Quebec points from the British Empire Steel Corporation Mines. These comparatively large winter shipments tend to show that eastern coals can be marketed under favorable rail rates. As a result of the success so far obtained, some Eastern Boards of Trade have applied for a further reduction to \$2.00 per ton on the ground that with this rate a larger market could be obtained with resultant benefit to the mining districts and operators. The reasons against their application are the following:

1. The potential demand of the Alberta operators for a proportional reduction.

2. The new rate would be less than the least possible cost to move the traffic.
3. The existence of a subsidy of $\frac{1}{5}$ of 1 cent on all commodities transported in the Maritimes.

There is hope, however, for a compromise rate between \$2.50 and \$2.75 providing there is co-operation on the part of coal operators to utilize the surplus box cars which gather in the East as the result of the export grain movement.

In the transportation of coal the Eastern coal mines have a valuable asset in the direct water route to the St. Lawrence. The Western coal mines, on the other hand, lack this, although the Great Lakes present possibilities which, at present, because of the cost of trans-shipment and lack of proper loading and unloading facilities for coal, would make the selling price of the coal too high in competition with American anthracite. Because of the direct water connections from the East, coal can be shipped F.O.B. Sydney to Montreal for approximately \$1.75 per ton including transportation costs, freight and insurance, agency and selling expenses. These low marketing costs have made it possible for the Eastern coals to compete favorably with American and British coals as far as Cornwall, 68 miles down the river from Montreal. Under the present conditions Cape Breton coals can not be marketed profitably in Toronto because of:

1. The costs of trans-shipment at Montreal although chute contrivances are possible which will greatly reduce this cost.
2. The lack of proper unloading facilities at Toronto.
3. The proximity of American fields.

The important point involved in the transportation of coal in Canada is that in so far as the test rates are economically sound and capable of moving coal to points in Quebec and Ontario where competition is economically possible, they should be supported by Canadians in fostering a policy of fuel independence, but, in so far as the reduction in the test rates is below the lowest possible cost of moving the traffic, they should be discouraged because it is economically unsound.

The other methods and plans for increasing the markets along the St. Lawrence waterways are: education, higher tariff, trustification, central and district heating and pulverization and carbonization of coal.

Education

The results obtained by the Alberta Government and operators in displacing American anthracite in Winnipeg reveal the potentialities there are in fuel education. They have shown by means of observation and experiment that every kind of coal has its peculiarities based upon its water, ash, carbon and sulphur contents, together with its heat producing capacity, usually expressed in number of British Thermal Units per pound of coal; and moreover, to obtain the best results necessitates a knowledge of the peculiarities and of the most effective method of stoking. However, tending to impede the efforts of education is the psychological attitude of the consumer who is loath to abandon a fuel that has given him satisfaction in the past even though there are numerous other fuels obtainable which are equally good.

At any rate there is much to be expected from education and co-operative sales effort on the part of Provincial Governments and their coal operators. A necessary step, however, in conjunction with an educational program, would be to force standardization of coal in order that the consumers might be in a better position to become acquainted with the different grades and their peculiarities.

Tariff

Under the existing tariff the import duties on coal are:

Bituminous—50 cents per ton.

(British preferential—35 cents per ton).

Coke and Anthracite—free.

99% drawback on slack entering Canada for use in by-product plants.

99% drawback on slack entering Canada for the production of coke for metallurgical purposes.

99% drawback on bunker coal.

Prior to 1925 the duty on bituminous was 53 cents per ton. The highest ever charged was 60 cents in 1880. The reduction to 50 cents was negligible in its effect. Therefore the rate has been practically stable since 1879. As a consequence of this the industries of Canada have adjusted themselves to this duty. Therefore any increase tending to disrupt this stability would result in an economic readjustment involving higher costs of industrial production in the Canadian industrial centres. Only the Canadian miners and opera-

tors would benefit from higher tariffs but it is very questionable whether the resultant benefits would outweigh the losses to Canadian industries and consumers as a whole.

In respect to increased tariffs the requests on the part of the coal operators are divided; the Crow's Nest Pass Coal Company demand the removal of the tariff because of the Fordney-McCumber retaliation tariff which taxes Canadian coal imports of the United States an amount equal to the Canadian duty on American coal. The loss of American markets is the basis of the Crow's Nest Company's application. On the other hand the Alberta and the Eastern companies favor the retention of the present tariff or an increased tariff to enable them to compete with American coal; and also a tariff on coke together with the removal of the drawback. At the present time the application of the British Empire Steel Corporation, acting upon the recommendation of the Duncan Commission, is for a bonus of 50 cents per ton to be paid on Canadian coal converted into coke for metallurgical purposes, and for the payment of a similar amount on Canadian coal converted into coke by by-product coke ovens, or on any coal converted into coke by by-product coke ovens, or by any other process. There is a good deal to be said in favor of this demand chiefly because of the discrimination the drawbacks have created against the Nova Scotia steel and coal industry. At any rate even though the drawbacks do discriminate against the Nova Scotia coal industry the likelihood of their removal seems small because of:

1. The increased cost of slack to the coke industries of Ontario.
2. The resultant necessity of a tariff on coke.

As a result of these difficulties the Dominion Government has attempted to get around them by passing in 1927 the Dominion Fuel Act for encouraging the erection of plants using Canadian coal. This act provides for the payment of a maximum interest of 5% on capital invested in by-product coking plants using 70% Canadian coal. A sliding scale of interest below 5% is to be paid for smaller percentages of Canadian coal.

Trustification.

In some of the countries in which the capacities of the coal mines have been utilized only partially, there have been movements

favoring trustification or rather the formation of trust syndicates as a means to eliminate inefficient coal mines and mining. The economies that result from trustification are those that arise chiefly from co-ordination of sales and marketing efforts. A policy of trustification should produce benefits to the scattered coal companies of Alberta and efforts should be made to accomplish it in this area. In the East, on the other hand, a different situation prevails since practically all coal mines are already in the control of one company.

Central and District Heating.

The future offers great possibilities in central and district heating systems as a market for cheap fuel to displace American anthracite. In addition these systems offer possibilities by being operated in conjunction with hydro-electric developments. Therefore, in so far as these systems are erected along the St. Lawrence waterways where Canadian coals can compete with the American, then central and district heating will be included among the factors making possible a policy of fuel independence.

Pulverization of Coal.

For some time past research has been carried on in connection with the pulverization of coal. As yet the extent to which pulverized coal will benefit industry is a matter of conjecture. At any rate a great deal is expected from it as a more efficient utilization of coal. Some Canadian coals are adapted to pulverization, others are not.

The Eastern coals have the advantage over the Western because of their smaller water content and the lesser tendency to cake.

Carbonization of Coal.

In Canada as a result of investigations it has been ascertained that the carbonization of coal by the present by-product processes will produce enough coal to replace 30% of the American anthracite. The percentage might be greater except for the limited market for gas. This drawback has retarded the development of by-product plants. However for the past two years investigations into the carbonization of coal have been directed towards the development of a by-product process by which the surplus gas will be converted into other by-products to a greater extent than by the high temperature carbonization processes now in general use. So far the low temperature carbonization of coal promises to be the best process by

which these results will be attained. However a successful process will depend upon two things:

1. The suitability and cost of the coke produced.
2. The prices that will be attained for the by-products.

The development of a successful process of carbonization eliminating the surplus gas would be an immense encouragement to the Canadian coking industry. The result would mean complete independence from American anthracite. Furthermore, Canadian coal, in so far as it can meet American competition and is suitable for carbonization, will obtain an increased market, and therefore Canada will approach nearer the objective of fuel independence. So far the carbonization of coal offers possibilities better than any of the other methods and plans considered as a solution to the problem.

II.

COSTS OF MINING COAL IN CANADA AND THE UNITED STATES

The costs of mining coals in fields of the United States are lower than in Canada. These costs and also the Canadian costs correlate closely with the prices at the pit mouth. The pit mouth prices vary and are dependent upon the nature of mining—whether horizontal, vertical or submarine, and the efficiency of mine per man unit. The pit mouth prices of the better Canadian and American coals are:

Alberta ranging between \$3.50 and \$5.50 per ton.

Nova Scotia ranging between \$4.00 and \$6.00 per ton.

New Brunswick ranging between \$4.00 and \$4.50 per ton.

Vancouver Island ranging between \$2.50 and \$5.50 per ton.

United States coal ranging between \$1.50 on bituminous slack to \$8.00 on anthracite.

With respect to these prices it would be an economically bad policy to attempt to destroy the benefits of the comparative advantage of American coal by any methods to keep it out of Canada.

III.

DUMPING

Relatively unimportant, although very annoying and worthy of mention in relation to the marketing problem, is the evil of dumping. The Customs tariff, which provides for a duty of 15% on imported commodities that are sold for a lower price than in the

home country, has been known to have been evaded by Canadian coal distributors and industrials. The over-expanded coal mines of the United States and the proximity of the Canadian markets are factors favoring dumping. Consequently Canadian coal, especially slack, is placed at a competitive disadvantage.

CONCLUSION

So far there has been discovered no economically sound method for increasing the markets for Canadian coal in Central Canada to the point of fuel independence. At any rate government acts, granting reduced transportation rates and encouragement to the development of coking plants, have only to a small measure effected the objects for which they were passed, namely:

1. Greater fuel independence.
2. Increased employment.
3. Satisfactory returns to the coal operators.

Nevertheless the plans and methods under consideration, including education of the consumers, trustification, central and district heating, carbonization and pulverization of coal, offer a large field of sound methods by which the Canadian marketing problem may be solved in the future. On the other hand, to attempt to solve the problem by artificial stimuli such as bounties and higher tariffs would be unsound and would tend to interfere with the industrial progress of Canada.

Canadian Opportunities in the New Zealand Market

By R. C. BAIRD
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HISTORY reveals to us that from the earliest times the settlement and growth of New Zealand have progressed hand-in-hand with the development of her external trade. It is indeed a "far cry" from the days when tattooed Maori heads were one of the chief exports to New Zealand's present-day shipments of wool, dairy produce, and frozen meats. So great has been the expansion of this country's external trade that now New Zealand leads the world easily as regards both imports and exports per capita.

This "Britain of the South" consists of two large and several small islands situated in the South Pacific Ocean and lying about a thousand miles southeast of Australia. The total area of the Dominion proper is nearly 104,000 square miles, surpassing that of Great Britain by more than 13,000 square miles. The climate varies from subtropical in the north to temperate in the south, extremes of heat and cold being moderated by the surrounding ocean. The winter months, normally June, July and August, are characterized by heavy rainfalls in the north, while throughout the south snowfalls and low temperatures are not unusual.

Although the Dominion of New Zealand has a wealth of productive soil capable of absorbing twenty millions, its present population is less than 1,500,000. However this population is 96% white and nearly 95 % British. New Zealanders are noted for their patriotism, and public sentiment is unusually prejudiced in favour of everything British. The comparatively small population of native Maoris are very intelligent and many have acquired a cultured education, European customs, and a good knowledge of modern methods of agriculture. Auckland and Wellington are the chief cities, being situated in the North Island. The former city has a population of over 200,000.

Agriculture and grazing lands are the most important of New Zealand's natural resources. Her forests have been of considerable value and the native timber is especially suited to building purposes. Mining is at present limited to coal and gold production. The coastal fisheries are also a source of wealth. Water power resources are being steadily developed by the government whose policy is to extend greatly the present use of electricity. The principal branches

of the agricultural industry are those of dairying and sheep farming. The fertility of the soil coupled with a warm climate has given the dairy farmer and pastoralist a valuable advantage in that the stock can graze in the open during the winter and do not need housing. Wool, meat, dairy produce, and other pastoral products combined, amount annually to over \$250,000,000 out of a total value of agricultural production of all types of some \$300,000,000. The prominence of these industries, moreover, is readily apparent from the fact that the estimated total production of all industries in New Zealand has recently been estimated at \$805,000,000 a year. Manufacturing and other industries are of secondary importance. Butter and cheese factories, and meat freezing and preserving works are the most important.

Thus we see that New Zealand is a country depending on primary industries to a very great extent for her prosperity. Consequently any condition affecting either the production or the market for primary products must be reflected in the economic conditions of this Dominion. Following the immediate post-war slump, there prevailed in New Zealand a few years of unexpected prosperity due almost solely to a very abnormal high-valued export market for her primary products. The establishment of favourable trade balances of very substantial nature increased the spending power of the population and there resulted a period of extravagant spending. Normal conditions materialized in 1925 when Great Britain, the principal market then developed for New Zealand exports, had filled her post-war shortage of these products and besides was buying similar supplies from other countries. The resulting fall in prices coupled with a reduction in available quantities revealed in March 1926, for the first time in several years, an adverse balance of trade for the year of about thirty million dollars and with no evidence of a let-up in the spending habits of the population. Since that date however, there has been a gradual reduction of purchases abroad, while on the other hand there have been large increases in shipments to overseas countries. During the last year the economic outlook has improved greatly, and optimism and confidence are returning. There is good reason for this. The new year opened under favourable conditions. The staple products of New Zealand, such as butter and cheese, wool and meat, are quoted at prices profitable to the producers, and furthermore there is an increase in production. In fact the present year is expected to establish a record in export of dairy produce from New Zealand.

Particularly favourable conditions experienced within the industry during the past season have been paralleled by satisfactory demands for these products in several principal markets. Such a situation is of immediate interest for two reasons. Increases in exports of dairy produce are producing a general expansion in the total of New Zealand's exports of all products, and, in restoring and enlarging her traditional favourable trade balance, are creating an increase in the Dominion's purchasing power, which will under normal circumstances be reflected in larger importations from Canada. The recent large shipments of butter to Canada will have the effect of establishing a more even balance between the trade of the two Dominions than has recently been evident and will at the same time remove all cause for hesitancy in purchasing from a market in which sales have formerly been of comparatively small dimensions. This hesitancy, a direct result of the unequal volumes of trade passing between the two countries, has for many years been one of the greatest obstacles in the way of developing the New Zealand market for Canadian products.

Twenty years ago Canada's exports to New Zealand were valued at about one million dollars per annum and constituted about 1.5% of the total value of all imports from overseas countries. Since then our exports to the sister Dominion have shown the greatest relative increase of any country. Canada's peak year, with 8.06%, occurred in 1924. Since then there has been a progressive fall due principally to the temporary withdrawal from the market of Ford cars and trucks, automobiles and accessories having been for several years the leading item of export. This latter trade, however, is showing every indication of regaining its former proportions, and with numerous important increases, such as those in rubber manufactures, it is expected that the total value of imports from Canada will shortly stand at as high or higher figures than have previously been recorded. In fact, every phase of the present situation points to further trade expansion. The trade links between Canada and New Zealand are good and Canadian exporters would be well advised to note the attention devoted to this market by competitors. Any increase in foreign competition means that their prices and sales policies must be very attractive, as New Zealand gives preference to British countries not in the tariff alone but in sentiment as well.

Motor vehicles have for many years been the leading item of export from Canada to New Zealand. In 1924 Canada's exports of

automobiles and parts to that country exceeded those of the United States. This great volume of trade was built up under tariff provisions which accorded British preference treatment to those goods when 25% of their value represented expenditure on Canadian materials and labour. The decline of our share in this trade since then has been partly due to a revision in the tariff which now grants preferential rates only to commodities in which 50% of the value was made up by such items. The distinct advantage enjoyed under the British preferential tariff however, has induced several Canadian factories to extend their manufacturing operations to a point above 50 per cent.

Another cause for the fall in Canada's automobile market has been the aggressive sales policies undertaken by United Kingdom manufacturers. They have very effectively cultivated the New Zealand trade and public sentiment by a representative delegation of automobile and truck makers and an extensive advertising campaign based chiefly on inter-Empire trade principles. The result shows a rapid expansion in the sales of English passenger motor cars. The effect of the recent absence from the market of Ford cars and trucks has already been mentioned.

The expansion of the New Zealand market for motor cars is impeded by her comparatively small population. However, a rather high standard of living and an unusually even distribution of buying power has made this Dominion one of the few countries where one motor vehicle to ten or fewer persons is recorded. This is remarkable in view of the high initial cost of all types, scarcity of good roads, and the high price of motor fuel and oils. It should be of interest to Canadian exporters to learn that during 1929 it is estimated that New Zealand will import 15,000 motor cars and 3,500 commercial motor vehicles.

Paper and paper products form an important item of Canadian trade with New Zealand, printing-paper forming by far the largest single commodity of this class. The majority of newspapers operate under the Newspaper Proprietors' Association, which body attends to the purchasing of newsprint for its members. Although New Zealand has trees suitable for the manufacture of printing-paper, no industry for that purpose has been established yet. The Dominion's production of paper at present is limited to the grades required for wrapping and packing, and the local output for such purposes is largely supplemented by importations. The whole of the paper required for writing and printing is imported and the predominant

demand is for good quality paper both in books and in stationery. Canadian newsprint has for the last few years constituted over 64% of all imports, the remainder having been imported chiefly from the United Kingdom, although a growing trade from Newfoundland has been a recent development. Lately there have been some indications of price reductions in the United States and in England which, combined with the somewhat disturbed conditions in the Canadian market, may lead to serious competition. However, the high quality maintained by our mills should lead to a favourable consideration of the tenders submitted by Canadian concerns for this year's supplies.

The New Zealand market for printing-paper other than newsprint has shown a decided preference for papers of United Kingdom manufacture, which country since 1925 has supplied roughly 85% of this commodity to Canada's 12%. This situation is due not only to lower prices which usually have been quoted by English mills, but also for a distinct preference on the part of the printing trade for the particular sizes in which these English papers are supplied and for their texture and finish. The situation is one wherein an increased share of the market may be secured only by a more careful study of some of its detailed requirements.

It is a feature of more than usual interest to note that the New Zealand Government imports annually some \$175,000 worth of stock, chiefly for the use of the Government Printer in Wellington, and that practically 100% of these supplies is furnished by English mills. While it is true that this market for Canadian paper may be somewhat limited by specific requirements in quality, it is quite possible that a more careful investigation of the price situation, in an effort to meet present competition, might well result in the establishment of a larger volume of business than is now being obtained.

Although lumbering is one of New Zealand's more important industries a large import trade is necessary to meet certain requirements in quantity, variety, and price. The United States is Canada's chief competitor in this market, there being no preferential rates of duty accorded to timber imports from British Empire countries. Our best policy is to compete in service, for in a market such as New Zealand the reputation of an overseas firm soon becomes known from one end of the Dominion to the other, and if transactions have not been satisfactory there is a hesitancy in placing further

orders. Canadian shippers should pay careful attention to grading and inspection.

A market that appears capable of considerable expansion is that in hardwood flooring. Due to the light construction of houses in the past, neither the frames of the buildings nor the interior finish have necessitated the use of high grade and expensive flooring material. At present, however, changing styles which favour a higher quality floor than has been common in the past have offered a market both for better quality and better finished local woods and for large amounts of imported woods as well. All grades of hardwood flooring now on the New Zealand market, with the possible exception of kauri, are woods of quality inferior to those of Canadian maple, birch, or beech, either on account of their appearance, their working qualities, or the utility of the floors which are made from them. In view of these facts it seems certain that the principal reason for the small sale of this Canadian article is mainly a result of insufficient efforts to interest local agents and buyers. A more ready response to offers probably will be received from lumber companies rather than from firms carrying on a purely brokerage business, the latter appearing somewhat disinclined to place a new article on the market. As the local mills engaged in the sale of domestic woods are able to hold a considerable part of their clientele by offering attractive terms of payment, it seems essential that Canadian exporters must quote prices and terms as low and as convenient as possible.

The hydro-electric developments in New Zealand within the last few years have made electric current available in many of the smaller centres of population. The use of electricity for domestic purposes is becoming general and the electrical trade is developing along lines which will be more or less permanent. Canadian electrical products are already firmly established in reputation due to the successful sales of electric stoves, which products are regarded as a standard in quality and design. With respect to a number of other electric appliances, the Canadian industry is not only less known but appears to be in danger of losing an opportunity of establishing itself in a valuable market at a particularly favourable time. Foreign manufacturers might easily offer serious competition unless greater attention is paid by Canadian manufacturers not only to the quality of their product and to the types demanded by New Zealand buyers, but also to the energetic development of sales by local representatives.

Other commodities which constitute Canada's share in meeting the needs of New Zealand include rubber goods; electrical, agricultural and dairy machinery and equipment; hosiery and underwear; hardware and tools; iron and steel and manufactured articles thereof. All of these have proved satisfactory for this market. Several countries with conditions very similar to those existing in Canada have been able to secure an extensive business in these commodities so it would seem that our Canadian export market is capable of quite an expansion in this zone. Due to the benefits under the British Preferential Tariff, Canada should be able to compete with many lines at present being supplied from the United States, who in 1926 supplied 19.5% of New Zealand's total imports as against Canada's share of 6.88 per cent.

The advertisement of Canadian goods in New Zealand has received comparatively little attention from exporters to whom this market has for many years been a valuable one. It is a significant fact that the United Kingdom manufacturers are very efficient in this respect. With the chief exceptions of automobiles and tires Canadian goods are not effectively advertised. The growing proportions of trade in manufactured commodities and the increasing keenness of competition surely warrant the institution by Canadian exporters of a definite advertising policy; a policy designed to establish for their goods a reputation for their individuality, quality, and British origin. But underlying this policy there must be a conservative tone in all methods used. The New Zealander is ordinarily inclined to distrust any tendency toward extremes and may be cultivated best through practices similar to his own; although the opportunity of employing the most modern methods of advertising, provided they may be suited to present conditions, should not be overlooked. The advertising should be carried on by persons competent to judge on the advocacy of particular methods as suitable to local conditions.

In New Zealand any advertising expenditure should show a maximum of results. Here the population is small and the area of the country is small and thus both the individual and the trade are easily reached, besides which the New Zealander from the point of view of per capita wealth is the most valuable consumer of any country in the world. Once supplied with a commodity which he knows to be of British make and which is of good quality, he may be

counted as supplying a consistent future demand. A general publicity campaign for Canadian-made products would be a very good start toward extending the volume of business now entering New Zealand.

As regards ports and distributing centres Auckland and Wellington are both large centres of population and the first ports of call of the great majority of incoming steamers. The former city forms the chief port for handling exports and imports for the northern half of the North Island; Wellington serves the southern half. Similarly in the South Island, Christchurch serves as the principal business centre for the northern part of the island and Dunedin for the southern areas.

Freight shipments may be made from Vancouver and Victoria on the Pacific Coast, and from Montreal, Saint John, and Halifax on the Atlantic Coast to all main New Zealand ports. The Canadian National Steamships and the New Zealand Shipping Company both operate regular monthly services to all main New Zealand ports from Montreal, Halifax or Saint John, while other lines also load at Atlantic ports at irregular intervals. The Canadian-Australasian Royal Mail Line operates a regular monthly passenger, mail, and freight service from Vancouver either directly to New Zealand or via ports on the Pacific coast of the United States.

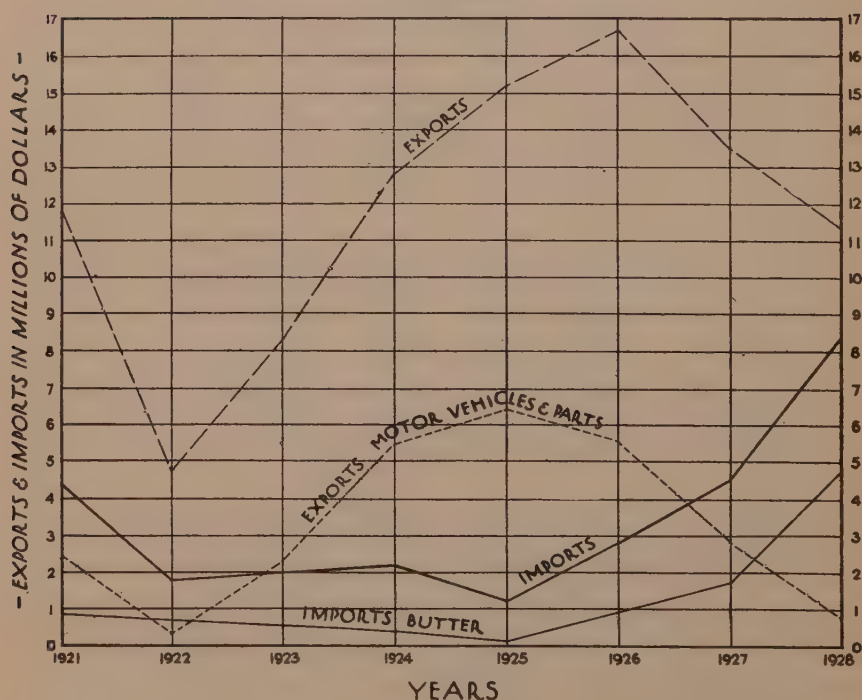
Canadian mails arrive at and leave New Zealand at fortnightly intervals. First-class and second-class mail is despatched from Vancouver every four weeks by the Canadian-Australasian Royal Mail Line steamers. Mails are also carried via San Francisco on boats operated by the Union Royal Mail Line, the two lines alternating to give a bi-monthly service. Parcel mail, however, between Canada and New Zealand is carried principally via Vancouver at monthly intervals.

Cable service to New Zealand is available to all Canadian telegraph companies, messages being transmitted by the Pacific Cable Board and by the Eastern Extension Cable Company.

New Zealand with her vast wealth of natural resources, her fertile land and her climate so well suited to developing the primary industries, will always be able to compete successfully in the world's markets. However, on contemplating the immediate future of this country, we must remember that New Zealand is so dependent upon

overseas markets for her prosperity and progress that she cannot disregard conditions in Great Britain, the United States, and Europe. Great Britain absorbs a large proportion of New Zealand's exports, and anything that affects the purchasing power of the people there is reflected directly in New Zealand. Consequently the recent monetary situation in England is of deep concern to that Dominion. Should the eight million pounds sterling withdrawn during the last few weeks of last year cause the discount rate in England to be raised, and thereby make money dear in Britain, the commodity prices undoubtedly would be affected and so bring about a reduction in prices for New Zealand produce in England. This is a possible danger which confronts New Zealand, but apart from this the outlook for our sister Dominion is extremely good.

- CANADIAN TRADE: NEW ZEALAND -
1921-28



Canadian Commerce in the Caribbean

By MADELEINE L. GIRVAN
McGill University.

THE development of trade between Canada and the British West Indies*—an important step in the direction of the economic unity of the British Empire—is receiving considerable attention in all parts of the Dominion, involving as it does such a promising field for Canadian commerce. The general impression is that the initiative and enterprise alone of the peoples concerned will determine the progress of commercial expansion. Significant of the increasing desire for reciprocal trade are the negotiations which have been carried on between the governments since 1912, and which have culminated fittingly in the agreement of 1925. This agreement provided for adequate transportation facilities, and named substantial general preferences to be granted by the contracting parties, as well as specific preferences on the more important products. The remaining factor is the organization of marketing, both in the British West Indies and in Canada, in order to popularize the products of each in the other.

Trade between these countries is trade in its true sense, and is wholly advantageous. The products of Canada and of the Caribbean colonies do not compete with one another, but rather are complementary—Canada refines British West Indian sugar—the British West Indies use Canadian machinery in producing sugar. Beyond the refinement of certain agricultural products for home consumption, the British West Indies do little manufacturing. The extent of their purchases depends upon the income from their exports. When we increase the purchasing power in the islands by buying more of their products, our sales to them will grow in proportion. During recent years the British West Indies, as well as Canada, have been importing to a great extent from the United States, in spite of her tariff barriers to Empire goods. If Canada expects to win a percentage of that import trade, she must first transfer her purchases of tropical goods from the United States to the British West Indies, in order to make the islands as independent of United States markets as possible.

(*) This term is used throughout the essay to signify the British West Indies proper, Bermuda, British Honduras, and British Guiana.

WHAT ARE THE REQUIREMENTS OF THE MARKETS?

The merchants and producers in the British West Indies have not been taking full advantage of the opportunity offered to them by Canadian markets. Canadian importers complain that their goods are not properly graded and packed. The present comparative isolation of the islands makes uniform grading difficult, and this difficulty will be overcome only by a co-operative system of marketing. If marketing were organized, and cultivation were extended, the British West Indies should be able to supply the entire Canadian demand for tropical goods, with the exception of tea and rubber.

To compete successfully in the British West Indian market Canadian business men must be thoroughly acquainted with its requirements. Owing to the small proportion of the white population to the black—1 to 14 in the Eastern group, 1 to 60 in the Western—and to the fact that the whites are mainly of English origin and disposed to buy English goods when possible, there is less demand for articles of high quality than for standard qualities at low prices. This does not imply that surplus stock may be dumped. On the contrary the best satisfaction is given by articles prepared expressly for the market, and often this preparation is essential. Meat and fish must be especially cured, confectionery, biscuits, and cheese especially wrapped, to withstand the climate. It is interesting to note that the coloured population are influenced to a great degree by attractive labels, and by the appearance of the product.

Owing to the stability of the climate, the same type of goods is in demand throughout the year, and consequently the people become accustomed to one brand. Hence the introduction of new lines necessitates a comprehensive system of advertising, as well as the shipping of small consignments as samples. American firms have installed agents everywhere to direct advertising and to search for business, whereas few Canadian agents are in evidence.

CANADIANS ARE UNNECESSARILY CARELESS IN TRADE.

Canadian exporters have been charged with negligence in all the courtesies of trade, particularly in mailing documents so as to arrive with the consignment. The correct practice is more than a courtesy, however, it is a business necessity, for if the certificate of origin is missing, the importer loses the preference due to him. Canadian exporters have also been known to take advantage of the preferential

tariff by raising their prices. It must be remembered that reliability and trustworthiness are essential to satisfactory commercial relations. An important factor when shipping perishable goods is to make certain that they are strongly packed and protected from moisture, without the addition of unnecessary weight. Otherwise the whole consignment may be lost, as usually ships do not dock and goods are lightered ashore.

The appointment of more trade commissioners should help to dispel this ignorance of the respective markets. The British West Indies have been urged to establish a commissioner in Canada representing the group. The islands realize the necessity of this office and the project was discussed at the Central West Indian Conference held at Barbados in January. It has been figured that the annual expense would be around \$15,000., which would call for only a small sum from each island. Canada now maintains two trade commissioners in the Caribbean, at Jamaica and at Trinidad. Considering the different conditions existing in the various islands it seems that this number might be increased to four, the others to be stationed at Barbados and at British Guiana, which is one of the most promising of South American countries.

A further inducement to trade exists in the presence of Canadian banks in the British West Indies. The Royal Bank maintains twenty-three branches, the Bank of Commerce three, and the Bank of Nova Scotia one, while the Bank of Montreal works in conjunction with the Colonial Bank. Hence money transactions can be carried on with a minimum degree of trouble to merchants at both ends. The banks also encourage the investment of Canadian capital in the British West Indies, and handle British West Indian investments in Canada. The managers are very willing to supply information in the absence of a trade commissioner, and have done much in the past to foster trade. It should be noted that long term credit is essential to many British West Indian importers, and Canadian firms must be prepared to make this concession as Americans have done for some years.

CANADA'S MAIN COMPETITOR IS THE UNITED STATES.

The average yearly consumption of the British West Indies is placed roughly at \$100,000,000, of which Canada for the year ending December 31, 1928, supplied goods to the value of \$20,068,153. For the same year the United States supplied approx-

imately 26%, the United Kingdom 23%, of the imports. There is little possibility of an immediate substantial increase in the buying capacity of the British West Indies, though with the development of British Honduras and British Guiana, a gradual growth may be expected. If Canada would increase her trade, therefore, she must do so at the expense of other countries, and mainly of the United States who is her most active competitor. The proximity of the British West Indies to Canada gives her an advantage over countries other than the United States by minimizing the time factor and transport expenses which longer distances would entail. Since 1925 our total trade with the British West Indies has increased by \$11,000,000, and with improved transportation facilities this year, the future may be viewed with optimism.

Last year Canada bought \$93,000,000 worth of tropical goods, but only \$23,000,000 worth from the British West Indies. In the majority of items the latter's total production exceeds our total consumption. The figures for grapefruit and oranges are:—

	From U.S.	From B.W.I.
Grapefruit	18,914,703 lbs.	452,870 lbs.
Oranges	2,131,475 boxes	2,133 boxes

Though at present the British West Indies do not produce enough to cover our demand, they would eagerly increase their crop to do so if assured of a market. In sugar and coffee we take nearly their whole yield, and a great deal more from other sources. It has been figured that they could augment their coffee production by 232%, and their sugar by 68%. During 1928 Canada purchased 43% of her cocoa from the British West Indies, but about 39% from British West Africa, some of it coming via England. A survey of the figures for other imports points to the same conclusion, that Canada is purchasing largely from other sources, and frequently from countries at a great distance.

For some years the United Fruit Company, though controlling only 10% of the banana crop in Jamaica, has had a monopoly of the carrying trade. Bananas were shipped to Canada via New York, and the prices were regulated by the company. With the first cargo of bananas carried direct to Canada by the C.N.S.S., the preference of 50 cents a stem will go into operation. The result will be a lowering of the price and probably an increase in consumption.

CANADIAN CAPITAL AND GOODS DESIRED IN B.W.I.

While the island colonies are overcrowded and well developed, British Honduras and British Guiana suffer from lack of labor and capital for exploiting their resources. British Honduras has plenty of land suitable for growing grapefruit and is desirous that Canadian planters come in. Pineapples and tomatoes also flourish, and the erection of a canning factory has been discussed. They believe that the presence of Canadian firms would encourage trade, and have promised to aid such a step as much as possible in the way of land, and in importing machinery free. British Guiana is a fertile country with innumerable natural resources, the most important of which is bauxite. Last year they exported 36,844,392 pounds of rice, none of which went to Canada. It is urged that in the future Canada obtain her supply from this source rather than from India and Japan where the trade now lies. British Guiana also has large areas of uncultivated land suitable for sugar or coffee. Canadian capital is needed here in mining and in building railroads. At present there are only one hundred and fifty miles of railroad in the country, and it is considered that the extension of this line would prove an outlet for Brazil, and bring some degree of prosperity to British Guiana. Both British Honduras and British Guiana are rich in hardwood forests, and are a potential source of lumber and wood products, of the type which Canada cannot produce.

Canadian sales to the colonies show an increase of 50% as compared with the figures for six years ago. Since 1925 there has been a noticeable improvement in the trade in basic commodities, but manufactures are slower in finding a market. Canadian flour is now bought almost exclusively by the British West Indies. In two years Vancouver has built up a fair trade in lumber, fish, butter, cheese, and flour, despite the long distance of transport. On the other hand while Canada supplied practically the whole requirement in condensed milk during the war, last year her share had fallen to 18%. Canadian merchants should also keep a keen outlook for openings in new types of goods. The following table shows the possible increase in the export* of certain products on which Canada gets a specific preference:—

(*) The figures are for exports of types used in the B.W.I. only.

*Trade between Canada & Jamaica, Barbados, Trinidad, British Guiana.—Calendar Year 1926.

PRODUCT	Value of total exports from Canada.	Value of Canadian exports to above countries	Value of total imports to above countries	Possible increase in exports from Canada
Butter.....	\$ 3,325,829	325,511	812,230	149%
Cement.....	308,144	116,317	492,100	323%
Boots and Shoes.....	4,091,955	338,944	1,559,259	360%
Cheese.....	24,857,868	146,860	253,586	73%
Fish, dried and canned.	24,478,354	1,923,210	3,179,667	65%
Flour, wheat.....	71,993,618	5,686,519	7,108,691	25%
Lard and substitutes...	1,136,435	110,917	515,330	365%
Lumber.....	63,523,246	764,157	2,286,034	199%
Milk, condensed.....	2,853,917	695,453	1,179,947	79%
Meats, salt beef & pork.	640,917	258,116	1,195,166	363%
Total.....	\$197,237,283	10,336,004	18,582,010	79%

With years of experience in West Indian trade behind them, the Maritime Provinces should be able to take the lead in the present development. Here is the chance for them to regain their prosperity, by the traffic passing through their ports, and by the outlet provided for their products. The market in dried and canned fish—a leading Maritime industry—must be recovered from Newfoundland who has supplied it recently. If the dairying industry in the Maritimes were revived, and made a point of catering to the British West Indian taste, there should be no difficulty in obtaining this trade. New Zealand, who is an active competitor in butter, ships some of this product to Canada where it is repacked in Canadian boxes and sent on to the British West Indies. Other products of Maritime industries and agriculture which the British West Indies consume are:—potatoes, confectionery, biscuits, brooms and brushes, newsprint, salted meats, and apples.

TRANSPORTATION IS A VITAL FACTOR

From the picturesque sailing schooners which plied their way along the coast between New Brunswick or Nova Scotia, and the West Indies, to the modern steamship—from the simple cargo of fish, rum, and molasses, to the diversified cargo of to-day—all through the history of trade, transportation has been the deciding factor. The whole agreement of 1925 turned upon this clause, and the complete list of preferences goes into effect only when the last of the C.N.S.S. liners sails in April, 1929. The Canadian Government have more than fulfilled their contract in building the "Lady"

(*) By the courtesy of the Canadian National Steamships.

ships—the finest boats ever run on this route, and exceeding all tonnage previously used. They are oil-burners, with a speed of 14 knots, and a gross tonnage of 7,750 tons. The passenger accommodation is excellent, and the ships are equipped with brine coolers and fans. The cargo space is over 258,000 cubic feet, and the banana carriers accommodate 100,000 stems. The refrigeration space is divided into four separately operated compartments for different types of cargo.

On the Eastern route the service is fortnightly from Halifax the year round, and on the Western route fortnightly from Montreal and Halifax. Besides the five "Lady" ships—three on the Eastern route, two on the Western—the C.N.S.S. also operate four cargo boats fortnightly on the Eastern route, and two banana ships sailing direct from Jamaica to Canada. Other services are Pickford and Black from Halifax, the United Fruit Company from Saint John, and the Canadian Transport Company, who subsidize a Norwegian line, from Vancouver. Fishing schooners still run from Nova Scotia to Turk's Island, carrying cargoes of fish and returning with salt.

Connection with British Honduras from Jamaica is made by a special boat supplied by the Canadian Government, and operated so as to meet the regular ships. Though this service is not altogether satisfactory, it was considered the best solution until increased trade with that section warranted further expenditure.

The ocean freight rates to New York and Canadian ports differ very slightly. Those to Canada are controlled by the Canadian Government, to which the British West Indies may appeal if they consider the rates unsatisfactory. The railway rates from Halifax and Saint John to Montreal have been adjusted so as to prevent trade falling off during the winter season.

With regard to inter-island communication, the C.N.S.S. refuse to carry consignments the short distances between the islands, and the British West Indies arrange their own service. The mail and passenger question obviously points to an aeroplane service. A matter of a day's trip by boat can be taken in only a few hours by plane, and the climate is considered excellent for flying. The idea of an aeroplane service from Canada to the British West Indies has as yet raised little discussion, but will no doubt be taken up seriously within the space of a decade.

A UNITED BRITISH WEST INDIES

The discussion of marketing, organization, and inter-island communication suggests the idea of a united British West Indies. It is certain that some degree of centralization would be influential in promoting production and trade, and hence wealth, in the colonies; if there is to be any possibility of free trade between Canada and the British West Indies in the future, the latter would first have to increase their wealth so as to make their revenue dependent upon taxation rather than upon customs, as at present. Political unity would also assist in the acquisition of wealth by reducing the number of separate governments to be supported by the islands. It is estimated that 44% of the revenue of the Leeward Islands goes to the support of government officials. The first step in this direction might be the grouping of Barbados, the Leeward, and the Windward Islands—a natural division—under a central government at Barbados.

The general opinion, however, is that insular prejudices and traditions, fostered by the physical barriers to friendly and commercial intercourse, are too strong to admit of a central government controlling the whole of the British West Indies, existing in one island. A compromise between complete political unity and the present isolation has been suggested, and is briefly summed up by E. C. Digby in the *Halifax Chronicle*:—

“The bedrock of any policy of closer union in the West Indies should be the control and direction of all purely local affairs and taxation by the local Governments, and the delegation to a small body of all affairs of common interest. . . . Under such a scheme as this there would be created a united West Indies and by shaping a course of this kind possibly it would lead to a United West Indies with a Dominion status.”



The Sources and Relative Merits of the Federal Revenues

By NEIL H. JACOBY
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TAKEN by and large, the problems of which an exposition will be attempted in this essay are two:—the one of an analytical and statistical nature having to do with the sources of revenue; the other having implications of ethics and political expediency—concerning the merits of such revenues, considered both from an ethical and fiscal standpoint. We shall consider these problems in turn.

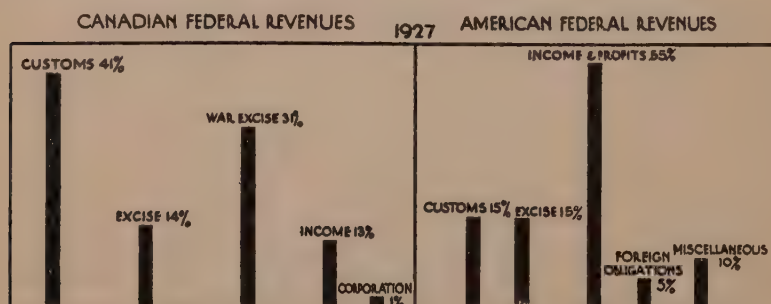
The *source* of a tax must first be distinguished from the *base* to avoid confusion. The latter term refers properly to the thing or circumstance upon which the tax is levied, while the former expression—that which concerns the present subject—means the person, whether individual or corporation, who pays the tax. Accordingly an endeavor will first be made to determine upon what individuals or classes in Canada the burden of Federal revenue falls.

The Public Accounts of Canada for the fiscal year ended March 31, 1927, disclose the following principal sources of revenue:—

Customs Import Duties.....	\$141,966,677.64
Excise Taxes.....	48,513,160.44
Sales, Cheque, and Transportation Taxes....	105,613,160.00
Income Tax.....	47,386,309.22
Bank, Insurance Co., Trust & Loan Co., Taxes.....	2,457,832.55
Total.....	\$345,939,139.85

Thus these five receipt items of tax revenue total approximately \$346 million out of a total sum received on Consolidated Revenue Fund Account of, roughly speaking, \$400 million or nearly 86% of the total. Non-tax revenue, including that from the Post Office which operates practically on a cost basis, can, for the purposes of this investigation, be neglected, since they consist chiefly of fees and returns for certain public services which are more or less inevitable in the business of a modern government. It is to the five classes of revenue enumerated above that attention will be directed, in order to ascertain *who* contributes under each tax base to the revenues of the Dominion.

Import duties collected under the tariff schedules have long been the "pièce de résistance" in the Dominion financial sustenance, constituting together with the ordinary excise duties practically the only resource of the Dominion for general expenditure up to 1915. They yet play a more significant role in Canadian Federal finance than in American Federal income, as is illustrated below.



It is impossible to state categorically what classes or sections in Canada pay the tariff. From the report "Trade and Commerce of Canada" issued quarterly by the Department of Statistics, may be ascertained the amounts of the various classes of merchandise imports for consumption in Canada, together with the duties paid on each class. These findings are summarized as follows:—

Classes of Imports	Amount of each	Duty Paid
Iron and its products.....	\$229,429,485	\$40,560,706.61
Animal and Animal Products.....	53,214,135	4,219,142.66
Agri. and Vegetable Products.....	213,098,121	41,966,980.92
Fibres, Textiles and Products.....	183,583,931	30,236,120.55
Non-ferrous Metals and Products.....	52,747,842	8,855,366.81
Non-metallic Minerals and Products.....	156,784,707	12,684,121.13
Chemicals and allied Products.....	31,844,785	3,332,189.53
Miscellaneous.....	62,227,271	8,351,853.15
Totals.....	\$1,030,892,505	\$158,996,367.03

A cursory examination of these statistics enables one to draw certain general conclusions. Evidently there is a considerable diversity in the character of Canadian imports, and in addition, a fairly equal distribution of the tariff revenues derived from the importation of each of these classes of merchandise. These inferences are further confirmed by an examination of the individual articles listed under each of the above headings. While it is outside the sphere of this essay to argue the justice of merits of the revenue raised on individual articles coming under our tariff schedules, it seems safe to state that the burden of these revenues is not borne unequally, on

the whole, among the different sections of the Dominion; that is, its source is Canadian consumers at large.

The revenues raised under our ordinary Excise duties need but passing mention. Upon the consumer of tobacco and spirituous liquors the burden rests chiefly in Canada, the sum collected from the manufacture of these two items equalling in 1926-1927, \$44,543,002 or 91% of a total Excise revenue of \$49,139,913. These taxes have had a long and gradual growth in Canada since Confederation synchronous with the customs tariff, and they have not in recent years been subject to any considerable criticism.

The taxes on sales and certain commodities imposed by the Special War Revenue Act of 1915 and its subsequent Amendments, the so-called War Excise duties, allow of a more extended discussion. Just how far the sales tax is paid by the consumer it is impossible to say. It is estimated in some businesses that about 25% is absorbed in lessened profits, the remainder being paid at once by the consumer in enhanced prices. In the long run, the difference is probably less than is commonly supposed, for in either case the tax is really one on *business activity*, resulting, if paid by the consumer, in lessened purchasing power, and if paid by business in lessened profits. The stamp taxes on wines and liquors, cheques and receipts, matches, and playing cards, all fall directly on the consumer, as very probably do the taxes on transportation tickets, telegraph and cable messages. All these taxes serve to broaden the base of Federal taxation, and make somewhat less difficult the problem of war finance, a fiscal Sword of Damocles that must hang over the head of every Finance Minister.

It is through the imposition of the income tax that in recent years the Federal tax burden has been to some extent redistributed. Mention has been made above of the fact that before the Great War the sole source of Federal revenue was customs and excise duties, that is, indirect levies upon consumers at large. In 1927-29 approximately 20% of our Federal revenue was composed of *direct* levies upon the incomes of individuals and corporations. *The result has been a partial shifting of the Federal tax burden to the shoulders of those with larger incomes. This tax on personal and corporate incomes, long a source of revenue to the national governments of Great Britain, Germany, and since 1913, the United States, was introduced into the Canadian fiscal system under the stress of war finance in

(*) W. B. Hurd. Trend of Federal Taxation and Expenditures, Banker's Journal, Autumn number.

1917. Although wartime patriotism stifled criticism, at that time, of this direct Federal tax, it has since been subjected to a volley of abuse, particularly of late when Federal revenues are more redundant and talk of "tax reduction" is current. The *progressive* nature of the income tax rates has apparently been the cause of this, for all other items in the list of Federal taxes are raised by *proportional* or *regressive* means. This much may fairly be said of the incidence of the income tax as at present constituted: it is a heavy tax only for those few with incomes greatly above the average; it is a moderate tax for citizens enjoying even substantial revenues; it is non-existent for the great majority of Canadian citizenry.

With respect to the taxes imposed upon the average circulation of Bank notes ($\frac{1}{4}\%$ every three months), upon the Canadian income of Trust and Loan companies (1% per annum), and upon the premiums of Insurance companies (1% per annum), it may be said that they probably have rested partly on the borrowing and insuring public at large and partly on the corporations involved. All of these "business taxes" have yielded but insignificant revenues, in 1926-1927 a total of \$2,455,871 or 7% of the total tax revenue.

To the present point the sources and bases of the principal Dominion revenues have been briefly examined, bringing this inquiry to its second division wherein the merits of these revenues will be given attention. Initially, it should be stated that the taxes imposed by our Dominion government are not to be adjudged as a comprehensive tax system, for such they are not, nor indeed are the levies of any other Federal government. From the broader viewpoint our Dominion taxes cannot be considered apart from our provincial and municipal impositions, since each political organism has its proper sphere of revenue sources, and only the total number of taxes imposed by *all* government in any country can accurately be described as a *fiscal system*. Keeping this fact in mind it is yet possible to discuss the value for fiscal purposes of each Dominion tax, and its equitability among the different classes of taxpayers, considered as a *Federal* tax.

Historically the oldest tax revenue of the Dominion, the customs tariff, has been a well-nigh universal source of income to national governments, but experience has repeatedly proved that it should by no means be the sole or even the main source. Its inelasticity makes it most unreliable either in periods of prosperity, of depression, or of war. In the decade preceding 1913, for example, a period

of large foreign borrowings, receipts from Canadian customs taxes rose from \$40 million to \$112 million. There can be little doubt that this sudden acquisition of income (a concealed tax in the price of imports) was to a degree responsible for the indiscriminating expenditure characteristic of that period. It was, in effect, living out of capital, insofar as the imports taxed resulted from foreign capital borrowings.* Then came the outbreak of war with curtailment of consumption and restriction of ordinary import trade, partly induced by a falling off of foreign borrowing,** and despite rising prices the customs revenue dropped to \$76 million in 1915. Then, under pressure of war inflation of prices as well as of increased tariff rates, they rose to \$163 million, again to fall to \$106 million with the post-war collapse of 1921. Canadian experience with the tariff revenue is completely corroborated by that of the Republic. Dr. R. F. Hoxie, summing up his discussion of the adequacy of the customs revenue throughout various periods in the United States, writes:—(*Journal of Pol. Econ.* Vol. III) "It will be seen that two factors are common to all these periods, viz. redundancy of revenue in time of commercial and industrial activity, and insufficiency and instability of revenue in time of stress and depression. in peace it has shown itself extremely uncertain, fluctuating with every crisis and even with changes in the policy and conditions of foreign nations; in times of prosperity it has forced upon the country embarrassing surpluses leading to extravagance in expenditure, speculation, and crises; in adversity it has left the Treasury empty necessitating the lavish use of the public credit." These statements are not adduced to urge the abolition or even reduction of the Canadian tariff rates, but merely to indicate their inadequacy as a main source of income.

It is outside the province of this essay to discuss the protective aspects of the tariff, important as they are. In Canada, as in most other countries, the ideas of revenue and protection have not been entirely separated in the structure of the tariff. It is sufficient to say that our tariff policy, in addition to any protective merits, consistently has raised a substantial if unstable revenue. But it should not be forgotten that tariff taxes bear more heavily upon the taxpayer making large purchases for consumption, and so do not approximate toward the ideal in taxation, which is "capacity to pay."

(*) Report of British Economic Mission to Australia, as quoted in *London Times* of Jan. 11, 1929.

(**) Viner—*Canadian Balance of International Indebtedness*, p. 276.
Also—Sir George Foster, *Parl. Debates*, Mar. 15, 1915, p. 896.

Excise taxes emphasize even more this regressive tendency in our Dominion taxation. Assuredly the individual enjoying an income of \$100,000 per annum does not consume 100 times the liquor, tobacco, and playing cards, that a man with a \$1000 income does; as a consequence he does not pay excise taxes in proportion to his income. The usual argument in reply, that the various articles subject to these taxes are "socially harmful", "unnecessary to the well-being of the people", and are therefore peculiarly fit subjects for taxation, seems of somewhat doubtful validity. For under present day conditions such commodities *are* universally used and demanded and they *do* appear as necessities for the major portion of our population, and thus constitute a regressive tax upon their consumption. But while the philosophers and physiologists argue what are socially harmful commodities and whether they should be heavily taxed in a regressive manner, the financier in event of doubt will rest content in knowing that these taxes furnish a substantial annual revenue to the Treasury, and from the fiscal point of view are a most satisfactory source of income.

We may now approach that bone of contention—the income tax. Taken in its ethical aspects the income tax needs no justification. It occupies a strong position in the tax systems of most European countries and is universally conceded to be one of the fairest and most equitable means of raising revenue. In Great Britain, where it has been continuously assessed since 1842, it is used as an adjustable regulator to maintain a close correspondence between revenues and expenditures. The source of its equity as well as of its criticism by the wealthier and more influential classes lies in the progressive rates. Yet herein lies its greatest merit and the strongest argument for its permanent retention in the fiscal system of the Dominion—it is needed to counterbalance that regressive tendency evident in the levying of our national revenues. "It is a generally accepted principle that taxes on articles of general consumption should be supplemented by direct taxes on property or income."* It is admitted that our income tax in its present condition is not a light tax on the larger incomes, scaling up as it does to a maximum of 40% on incomes of \$500,000 or over, and with 300 individuals directly paying about 1/10 of this tax revenue. It is probably advisable to reduce the upper bracket rates moderately in the interests of eliminating evasion, but the tax should not be cast out of the system and made, as its title would indicate, strictly a "War Income Tax". In

(*) Dr. J. H. Hill—English Income Tax. Studies of Am. Econ. Ass.

addition to the ethical basis for retention there is a strong fiscal reason. The income tax is extremely flexible, and once the machinery of administration is in operation it can be made to yield a revenue of widely varying amount, with a minimum of cost and friction. It has been graphically illustrated above how important a source of Federal revenue the income and profits taxes are to the United States, despite the fact that they have revenues from foreign investments not possessed by the Dominion, and also a smaller per capita debt. In addition the contingency of war must ever be kept in view notwithstanding Kellogg Pacts, Locarno Treaties, and the like; there is a point to the statement of Mr. J. S. Prentice (Queen's University Bulletin No. 55):—"We must insist on the retention of the income tax for the same reason as we keep our militia—preparedness for whatever the future may bring forth."

Unlike our tariff duties, which are largely specific and therefore inelastic in periods of rising prices, the War Excise taxes are chiefly ad valorem and consequently respond to war needs. Moreover their yield can be greatly enhanced in a minimum of time as was demonstrated during the years 1922-1924. In 1921 the normal rate of the sales tax was raised from 1% to 3%, and in 1922 to a normal of 6%. The increase in revenues is shown in the yields:—*

1922.....	\$44,820,162
1923.....	62,685,520
1924.....	71,834,927

Consequently there is a first-class fiscal argument for the sales tax, but on the other hand there is that ethical objection identical with that applying to the tariff or to our ordinary excise duties—they are regressive. Moreover they have not even that theoretical prop of the ordinary excise duties, that they control sumptuary consumption, for a large number of articles subject to the sales tax, for instance clothing, could not conceivably be termed "socially harmful". It is interesting to note that in the United States, following the War, proposals for the institution of a tax on general sales were vigorously opposed, both by certain manufacturing associations and the Federation of Labor. Certain of the War Excise taxes such as the license and stamp taxes on legal documents, the taxes on automobiles, cheques and receipts, light wines and beers, may well be retained intact as part of the broader base of Federal taxation resulting from the war. Diversity in taxation is a

(*) From Canada Year Book, 1927-1928 edition.

recognized principle of governmental finance when not carried to the point of administrative waste. But certain of the articles taxed under the sales tax provision of the Special War Revenue Act should be exempted, and the normal rate of the tax reduced in forthcoming sessions of Parliament.

There remains only the taxes on bank circulation, on insurance companies, and on trust and loan companies, to be considered. These special taxes are justified by the special corporate privileges conferred by charter on such companies, and they are not burdensome with their present rates. They are collected by the Department of Finance at negligible cost and should be permanently retained in the revenue system of the Dominion for purposes of diversification.

In concluding, some remarks might be made appropriately on Federal finances in general in recent years, and upon present-day taxation policy. When the History of Canadian Federal Finances is written, the period of the World War will stand out as significantly as does the Civil War period in the United States fiscal history, for at that time did our Federal government emerge from a primitive financial era of sole dependence on customs and excise duties, into a more enlightened period when direct taxes had a place in the revenue system. This "tax revolution" was, of course, induced by an unprecedented rise in expenditures—from \$144 million in 1913 to a maximum of \$786 million in 1920. Yet, due to the inelasticity of the Federal fiscal system as then (1913) existing, and to the administrative difficulties in organizing the collection of the new taxes imposed, we were a more lightly-taxed people during the war than before it, the rise in prices considered. From 1919 to 1925 the burden increased, however, until in 1928 in terms of the 1913 dollar it is about 50% greater.* But allowing for the increase in business activity and the partial redistribution of the tax burden through the income tax, the real burden of Federal taxation for the average citizen at the present time is not above 5% greater than in 1913. In view of the budgets of most European countries, and in spite of an annual expenditure on our own of approximately \$160 million made necessary by the late War, this rather astonishing result has been made possible only by a rigid economy and curtailment of ordinary and capital expenditures. Indeed, with the exception of the United States, we are the most lightly taxed people among the progressive nations of the world.**

(*) W. B. Hurd—op. cit.

(**) Statesman's Year Book, 1926.

In view of these manifest facts what must our tax policy be? A large number in the Dominion advocate substantial reductions in the "War" taxes with a view to their ultimate abolition. "Lower taxes", they say, "and you have given a stimulus to business, to the import of capital, and indirectly to immigration, without any of which factors the Dominion will not quickly develop". But this argument does not appear as an impressive one. Three factors must ever be kept in the foreground when tax reduction is urged:—

- (a) Our Federal tax burden is not a relatively heavy one.
- (b) The Canadian people are yet encumbered with a substantial burden of debt.
- (c) With the passing of time populations expect more of their governments in the form of railways, canals, highways, and government services, all of which must be paid for from the proceeds of taxation.

In consequence it would appear a better policy if the Federal government would maintain the sources of its tax revenue substantially as they exist at present, with only such modifications of the sales and income taxes as noted above, namely:—

- (a) Somewhat less steeply progressive income tax rates.
- (b) Exemption from the sales tax of articles of general consumption.
- (c) Lowering of the normal rate of the sales tax.

Pursuing such a policy it will be possible to reduce the public debt consistently, to adopt a more liberal attitude toward capital expenditures, and so to offer a more attractive existence for our native as well as potentially immigrant populations of other lands.



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